MDAP and IT/NSS Requirement to Develop Outcome Measures of Effectiveness and Conduct PDPR/PIR

Ray Boyd
Director (acting)
DASD(DCIO) CP/O
Ray.Boyd@osd.mil

Leonard Sadauskas
DASD(DCIO) CP/O
Leonard.Sadauskas.ctr@osd.mil

Content

- **Definitions of MOEs and PIR/PDPR**
- **Statutory and Regulatory Requirements**
- **Views of PIR/PDPR in the IT/NSS Life Cycle**

Outcome Measure of Effectiveness (MOE) Defined

- ***The measure of effectiveness*** is the criterion by which solutions will be judged- proposed solutions, solutions under test, or solutions in being

- ***MOEs are…*** standards against which the capability of a solution to meet the needs of a problem may be judged. The standards are specific properties that any potential solution must exhibit to some extent. MOEs are independent of any solution and do not specify performance or criteria.

- ***MOEs are a measure of operational success*** that must be closely related to the objective of the mission or operation being evaluated. For example, the number of enemy submarines sunk or enemy tanks destroyed may be satisfactory MOEs if the objective is to destroy such weapons systems. … A meaningful MOE must be quantifiable and a measure to what degree the real objective is achieved. (The Defense Acquisition University in its 10th edition Glossary)

Other Performance Measures

- **Acquisition Performance Measures**
  - Earned Value
  - Technical Performance Measures
  - Acquisition Program Baseline
- **Development Test and Evaluation Measures**
  - Measure conformance to contract
- **Operational Test and Evaluation Measures Title 10 USC Section 2399**
  - Collects, measures and predicts system effectiveness and suitability
  - Actual or simulated employment, by typical users, of a system under realistic operational conditions.
  - Note: May address MOEs but not in actual operational environment
- **Follow-on OT&E**
  - Verification of correction of deficiencies discovered earlier
  - Tactics development
  - OT&E of block upgrades to the system
  - Completion of OT&E of system support materiel (pubs, equipment, etc.)
  - OT&E against emerging threat
  - Completion of deferred OT&E (other climates, unique modes of operation, etc.)

Post Implementation Review (PIR) Defined

- **PIR is equivalent to the Post Deployment Performance Review (PDPR). Next edition of 5000.2 will clarify**

- **An analysis of an investment or acquired system, operating in its intended environment, using data collected from various sources to answer the question:**

Did we get what we needed, and if not what to do about it?

- **A measurement of the outcome measures of effectiveness (MOEs) assigned to a materiel solution by the capability/mission owner**

Why do PIR?

- **An essential element for decision making**
  - Balanced Scorecard
  - Portfolio Management
  - Business Enterprise Architecture Domain
  - Functional Capability Board
  - Enterprise Strategic Planning
- **Essential feed-back loop for continuous improvement of the Joint Capabilities Integration and Development System (JCIDS)**
- **Good systems engineering practice in an incremental capability deployment environment**

Statutory Requirement for MOE/PIR

Sec 5123 of the Clinger-Cohen Act:

(Performance and Results-based Management)

- Establish goals for improving Agency efficiency and effectiveness
- Provide annual status of goals to Congress
- **Prescribe IT/NSS outcomes performance measures** (MOEs)
- Benchmark against comparable processes and organizations
- **Measure how well the outcomes support programs of the Agency**
- Meet fundamental criteria:
  - Core/priority mission functions for performance by Government
  - No alternative private sector or government source
- Conduct BPR/Change management before investing in IT/NSS
- Ensure information assurance

Statutory Requirement for MOE/PIR (cont)

- **CCA Sec. 5123. Executive Agency**
  - (3) Ensure performance measurements are prescribed … and measure how well the IT/NSS supports DoD programs

- **CCA Sec. 5141. Applicability of CCA to NSS**
  - Sec 5123 (above), and 5126 (Accountability) applies to NSS

Statutory Requirement for MOEs and PIR (cont)

- **CCA Section 5126 Accountability** The head of each executive agency, in consultation with the Chief Information Officer and the Chief Financial Officer of that executive agency
  - (1) ensure that the accounting, financial, and asset management systems and other information systems of the executive agency are designed, developed, maintained, and used effectively to provide financial or program performance data for financial statements of the executive agency;
  - (2) ensure that financial and related program performance data are provided on a reliable, consistent, and timely basis to executive agency financial management systems; and
  - (3) ensure that financial statements support -

    (A) assessments and revisions of mission-related processes and administrative processes of the executive agency; and

    (B) performance measurement of the performance in the case of investments made by the agency in information systems.

Statutory Requirement for MOEs and PIR (cont)

- **U.S. Code Title 31, Sec. 1115. Performance Plans**
  - Establish performance goals to define the level of performance to be achieved by a program activity
  - Express goals in objective, quantifiable and measurable form unless authorized to use alternative form
  - Describe operational processes, skills, technology, information or other resource required to meet the goal
  - Establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity
  - Provide a basis for comparing actual program results with the established performance goals
  - Describe the means to be used to verify and validate measured values

OGC Opinion for MDAP and IT/NSS Requirement for PDPR or PIR

There is a legal requirement under the GPRA that for each program activity set forth in the budget of an agency there be a comparison of "actual program results with the established performance goals" (31 U.S.C. 1115(a)(5)). There is a similar legal requirement under CCA for IT that there be performance measurements that "measure how well the information technology supports programs of the executive agency" (40 U.S.C. 11313(3)). If I understand the concept of a PDPR correctly, it is intended to satisfy these requirements. For IT, a PIR would satisfy these requirements. As long as we have a method to satisfy these requirements, we can call them any term that suits our fancy. However, it seems that PIR and PDPR represent DoD's chosen terms. Whatever they are called, the process that they represent is required by these laws. Therefore, they should be cited in the "Statutory Information Requirements" table of 5000.2.

Bob Gorman

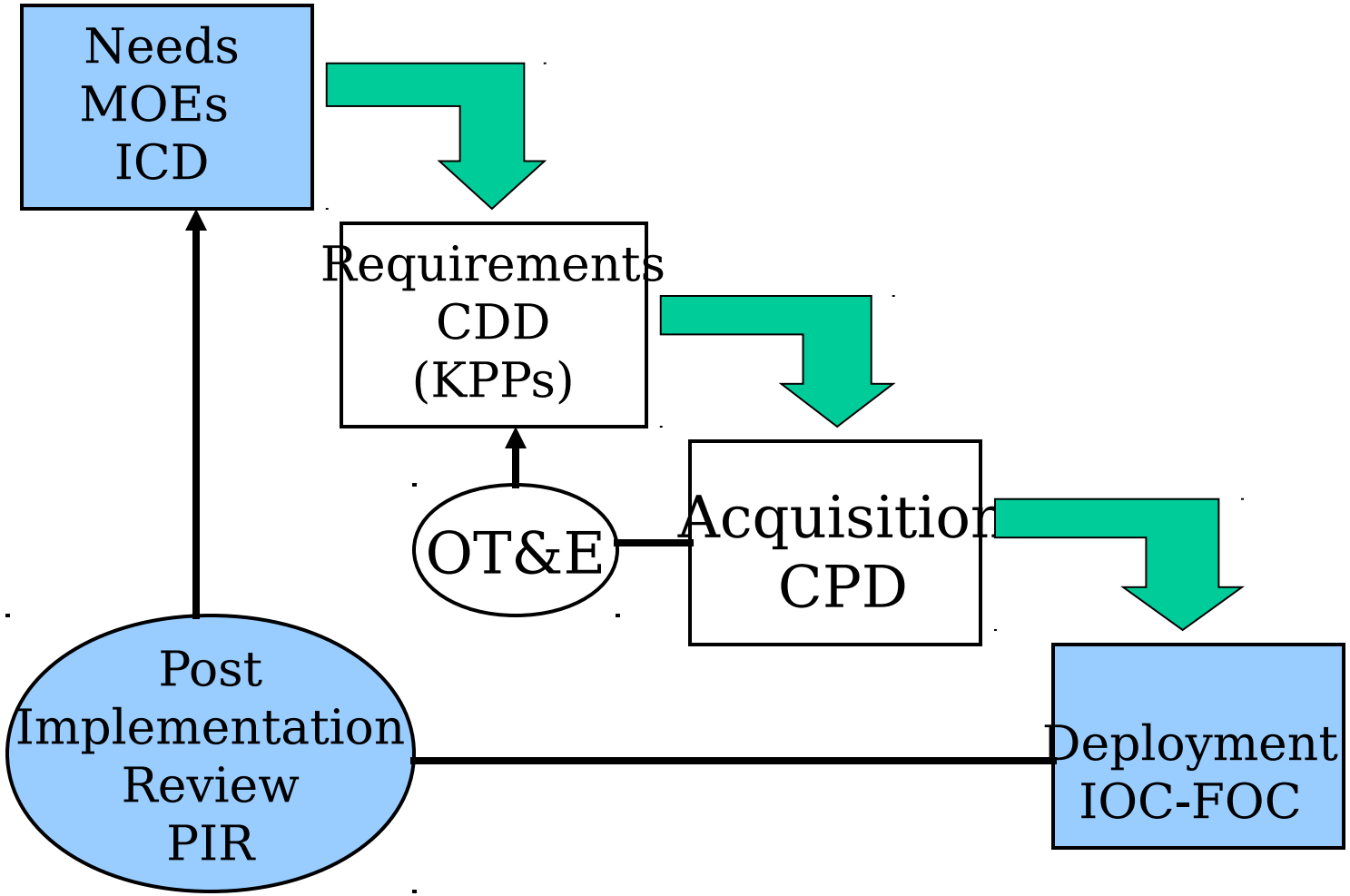
Regulatory Requirement for MOE/PIR

- **JCIDS Manual assigns the respective FCBs and Domains responsibility for articulating capability attributes, metrics and measures**
- **DODI 5000.2**
  - Table E3.T1 cites information required for the Full-Rate Production decision, including the Post-Deployment Performance Review citing GPRA and 40USC 11313
  - Table E4.T1 establish outcome-based performance measures linked to strategic goals.
- **OMB Circular A-130 in section under "Evaluation"**
  - Conduct post-implementation reviews of IT to validate estimated benefits and costs
- **OMB Circular A-11 Exhibit 300, Table 1C requires submission of:**
  - Performance Goals and Measures. Strategic goal(s) supported; Existing baseline; Planned and actual improvements and performance metrics

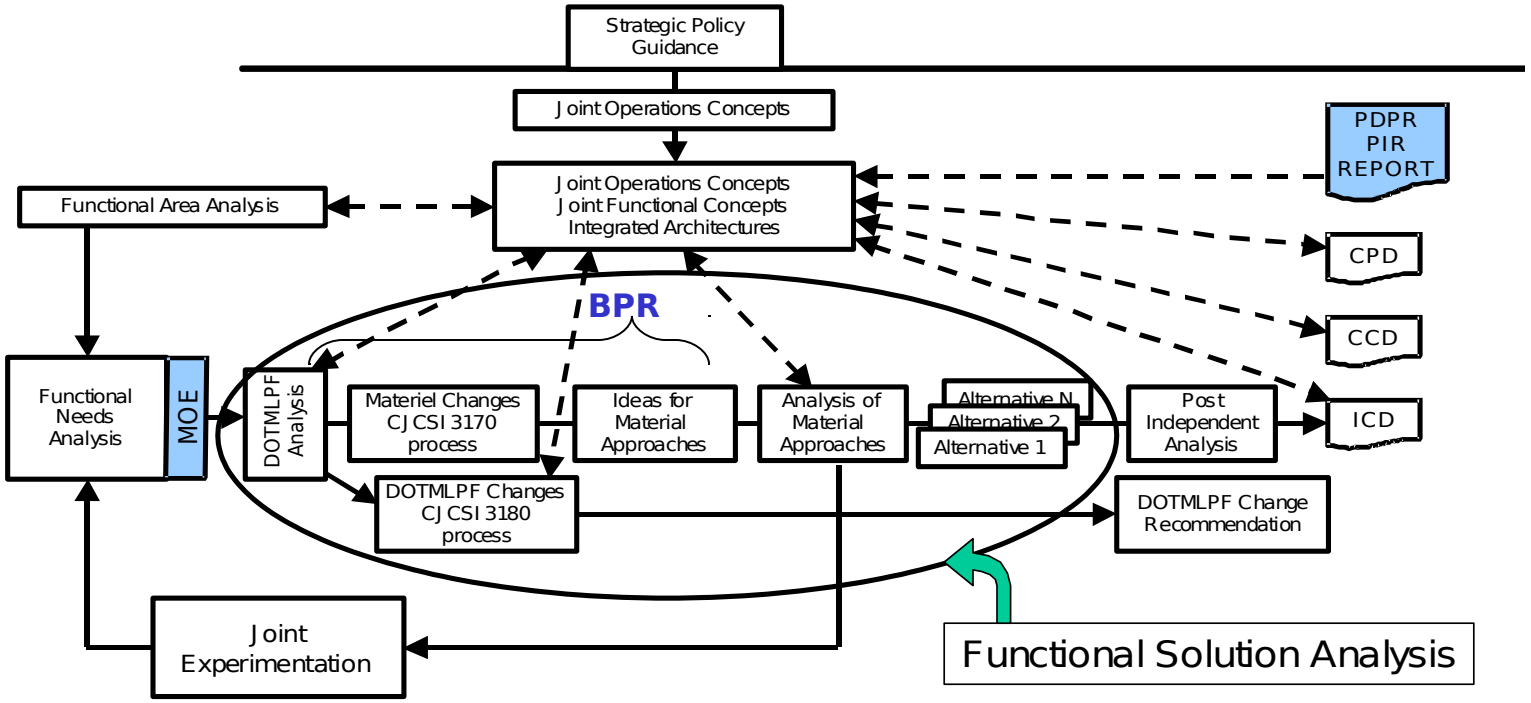
MOEs and PIR in the Life-cycle

- **The following slides provide three views of MOEs and PIR**
  - **In the investment life-cycle**
    - A holistic view demonstrating the role of OT&E verifying the requirements and PIR verifying achievement of the need
  - **In the JCIDS life-cycle**
    - A detailed look into the FCB analysis process showing MOEs supporting the FSA and PIR/PDPR answering the question, “Did the solution satisfy the need?”
    - Note that we consider BPR to be inside the FSA and that BPR includes both materiel and non-materiel solutions
  - **In the classic verification V depiction of the acquisition life-cycle**
    - The left arm depicts the progression of key needs, design and contractual documents
    - The right arm depicts the verification of the acquisition against these documents
    - In the box are typical information sources for a PIR

IT/NSS Investment Life Cycle



MOEs and PDPR/PIR in the J CIDS Analysis Process



MOEs and PIR in Acquisition Life Cycle